



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/529,265

09/28/2005

Xavier Blin

05725.1418

2134

22852

7590

08/31/2010

FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER
LLP

901 NEW YORK AVENUE, NW
WASHINGTON, DC 20001-4413

EXAMINER

CHANNAVAJJALA, LAKSHMI SARADA

ART UNIT

PAPER NUMBER

1611

MAIL DATE

DELIVERY MODE

08/31/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Continuation of Disposition of Claims: Claims pending in the application are
108,109,111,112,115,121,124,130,133,134,136,139,140,159,163,164,166,168 and 170-220.

Continuation of Disposition of Claims: Claims rejected are
108,109,111,112,115,121,124,130,133,134,136,139,140,159,163,164,166,168 and 170-220.

DETAILED ACTION

Receipt of amendment, response, IDS and terminal disclaimers all dated 5-28-10 is acknowledged.

Claims 108-109, 111-112, 115, 121, 124, 130, 133-134, 136, 139-140, 159, 163-164, 166, 168 and 170-220 are pending.

Terminal Disclaimer

1. The terminal disclaimers filed on 6-5-2010 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of 10/529267; 10/529266 and 10/529218 have been reviewed and accepted. The terminal disclaimer has been recorded.

In response to the amendment to the claims, limiting the claimed "at least one film-former" to be non-elastomeric, the rejections of record have been withdrawn and the following new rejections have been applied:

Double Patenting

2. Claims 108-109, 111-112, 115, 121, 124, 130, 133-134, 136, 139-140, 159, 163-164, 166, 168 and 170-220 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 3-4, 8, 18, 26, 27, 29, 35, 73, 75, 78, 82, 87 and 89 of copending Application No. 10/670478 in view of US 6153206 to Anton et al or FR 2140977 (submitted on IDS 5-28-10).

This is a provisional obviousness-type double patenting rejection.

Art Unit: 1611

3. The copending claims of 10/670478 claims a non-elastomeric polymer comprising a first and a second block polymer that have two different T_g , both blocks linked by an intermediate block polymer, wherein the block polymer has a polydispersity of 2.8-6.0. The first and second blocks that constitute the polymer of the above claims overlap with the instant first and second block of the instant "at least one film-forming polymer". Further, both instant polymeric blocks and the first and second blocks of the copending polymer have the same the glass transition temperatures. Instant claims differ from the copending claims in that instant claims recite a cosmetic composition with the above random block polymers (such as that of the copending claims) with additional cosmetic components such as silicone polymers, fat soluble polymers and cosmetic additive, a cosmetic kit and a method of make up using the composition. In particular, instant claim 170 recites the same PDI as that claimed in the copending application.

4. US 206 patent to Anton discloses cosmetic compositions comprising a non-elastomeric film-forming synthetic ethylenic block polymer in a cosmetically acceptable liquid medium (e.g. an oil) (abstract; col. 2, lines 9-23 and 56; col. 6, lines 7-10; claim 1). Anton teaches that the polymer of the invention comprises portions having a low glass transition temperature (T_g) and portions having a high T_g and teaches that one block is preferably constructed from isobornyl methacrylate (elected species) (col. 4, lines 5-27; Example 1). This block has a glass transition temperature, T_g of 76-120 °C. Anton also teaches that a second block of the polymer is constructed from monomers, which when polymerized have a glass transition temperature, T_g of -10 to 75 °C (abstract). Anton teaches that the oil component is a volatile or nonvolatile oil (i.e. an organic liquid

Art Unit: 1611

medium) (col. 6, lines 8-10 and 17-19). Anton teaches that the compositions are useful as shiny, transfer resistant cosmetics (col. 1, lines 60-67; Example 1). Anton further teaches that the polymer of the invention may be a copolymer, a terpolymer (i.e. a polymer of three different monomers), or have any number of different units in addition to the first and second repeat units (col. 2, lines 58-62; col. 4, lines 28-60). In particular, Anton teaches block terpolymers and teaches that the repeating units are monomer units which are present more than one time in the polymer chain and can be present in either repetitive sequence or in random sequence with other monomer units (col. 3, lines 21-24). Anton presents a number of suitable polymer architectures (table in col. 4). Anton also emphasizes the importance of having "hard" and "soft" portions (i.e. portions having different glass transition temperatures, T_g) in the polymer to maintain both flexibility and shine of the composition (col. 2, lines 51-58).

5. Anton further teaches including shine enhancing agents such as vinylpyrrolidone/hexadecene copolymers (col. 10, L 28-68) for imparting shine to the composition. Anton teaches the copolymers in an amount of 5%-50%. FR 2140977 (FR 977) patent teaches block polymers containing different blocks, resulting in mixed diblock polymers (pages 5-6), and further comprising at least one block formed by copolymerization of the first monomer and of the second monomer (page 8). FR 977 teaches the combination of the first and second monomers that form the blocks of the above polymer (pages 10), which include the claimed acrylate and methacrylate monomers. FR 977 teaches that the polymers can be used in water-in-oil or oil-in-water

Art Unit: 1611

emulsions or as a dispersing agent, in various emulsions (page 14-15) in cosmetic compositions.

6. Accordingly, it would have been obvious for one of an ordinary skill in the art at the time of the instant invention was made to employ the block copolymers of copending claims in cosmetic compositions for imparting shine (Anton) with an expectation that the combination imparts transfer resistance (see col. 1, L 65-68 of Anton) and also imparts shine to the composition; or as dispersants or emulsifiers (FR 977).

Claim Rejections - 35 USC § 103

7. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

8. Claims 108-109, 111-112, 115, 121, 124, 130, 133-134, 136, 139-140, 159, 163-164, 166, 168 and 170-220 are rejected under 35 U.S.C. 103(a) as being unpatentable over over US 6,153,206 to Anton et al. in view of US PGPUB 2002/0076390 to Kantner, U.S. 6,531,535 to Melchior and FR 2140977 (submitted on IDS 5-28-10).

US 206 patent to Anton discloses cosmetic compositions useful as shiny, transfer resistant cosmetics (col. 1, lines 60-67; Example 1) comprising a non-elastomeric film-forming synthetic ethylenic block polymer in a cosmetically acceptable liquid medium (e.g. an oil) (abstract; col. 2, lines 9-23 and 56; col. 6, lines 7-10; claim 1). Anton teaches that the polymer of the invention comprises portions having a low glass transition temperature (T_g) and portions having a high T_g and teaches that one block is preferably constructed from isobornyl methacrylate (elected species) (col. 4, lines 5-27; Example 1). This block has a glass transition temperature, T_g of 76-120 °C. Anton also

Art Unit: 1611

teaches that a second block of the polymer is constructed from monomers, which when polymerized have a glass transition temperature, T_g of -10 to 75 °C (abstract). Anton teaches that the oil component is volatile or nonvolatile oil (i.e. an organic liquid medium) (col. 6, lines 8-10 and 17-19). Anton further teaches that the polymer of the invention may be a copolymer, a terpolymer (i.e. a polymer of three different monomers), or have any number of different units in addition to the first and second repeat units (col. 2, lines 58-62; col. 4, lines 28-60). In particular, Anton teaches block terpolymers and teaches that the repeating units are monomer units which are present more than one time in the polymer chain and can be present in either repetitive sequence or in random sequence with other monomer units (col. 3, lines 21-24). Anton presents a number of suitable polymer architectures (table in col. 4). Anton also emphasizes the importance of having "hard" and "soft" portions (i.e. portions having different glass transition temperatures, T_g) in the polymer to maintain both flexibility and shine of the composition (col. 2, lines 51-58). Anton further teaches including shine enhancing agents such as vinylpyrrolidone/hexadecene copolymers (col. 10, L 28-68) for imparting shine to the composition. Anton teaches the copolymers in an amount of 5%-50%. Accordingly, it would have been obvious for one of an ordinary skill in the art at the time of the instant invention was made to prepare a polymer arranged with a first block and a second block connected by an intermediate block comprising a random copolymeric block having both types of monomers, to provide a suitable polymer and include the shine imparting copolymers such as vinylpyrrolidone/hexadecene copolymers of Anton in a cosmetic composition with an expectation that the combination

Art Unit: 1611

imparts transfer resistance (see col. 1, L 65-68 of Anton) and also imparts shine to the composition. Anton teaches a variety of monomers suitable for the block having a T_g of -10 to 75 °C but does not teach the instantly isobornyl acrylate or isobutyl acrylate.

Kantner teaches cosmetic compositions for hair, nails and skin in the form of emulsions or dispersions. The composition comprises non-elastomeric copolymers comprising at least one copolymer comprising 10-85% of methacrylic ester of C4-C18 carbon atoms, 10-70% of methacrylic ester having saturated or unsaturated cyclic alcohol having C6-20 [0007] and [0010]). Among several monomers that make up the polymers, Kantner teaches that isobornyl (meth)acrylate is a suitable polymer for one block and that isobutyl acrylate (reads on elected species) is a suitable polymer for the other block (paragraphs [0017] and [0018]). Kantner teaches that both isobornyl acrylate and isobutyl acrylate are preferred monomers for the respective blocks (paragraphs [0017] and [0019]). The teachings of Kantner suggests functional equivalence of isobornyl methacrylate ($T_g = 110$ °C) (a preferred second repeat unit taught by Anton) and isobornyl acrylate ($T_g = 94$ °C) as the monomers of the first block (paragraph [0019], line 14). Kantner teaches that the compositions provide improved gloss to cosmetics (paragraph [0009]). Kantner teaches that the compositions are advantageous in cosmetics such as, *inter alia*, nail polish and lipstick since the compositions because of their ability to form hydrophobic films that impart water resistance and transfer resistance (paragraph [0013]). Kantner also suggests that the compositions upon application to hair render a reshapable hair styling composition (0014). Thus, it would have been *prima facie* obvious to one of ordinary skill in the art at

Art Unit: 1611

the time of the invention to substitute isobornyl acrylate for another monomer having a high T_g and isobutyl acrylate for another monomer having a low T_g (i.e. substitute one preferred monomer for another) in the copolymers taught by Anton to prepare a copolymer with excellent gloss and improved water and transfer resistance because Kantner suggests functional equivalence of isobornyl methacrylate ($T_g = 110\text{ }^\circ\text{C}$) (a preferred second repeat unit taught by Anton) and isobornyl acrylate ($T_g = 94\text{ }^\circ\text{C}$) as the monomers of the first block and further isobutyl acrylate ($T_g = -24\text{ }^\circ\text{C}$) is functionally equivalent to *n*-butyl methacrylate (a preferred first repeat unit taught by Anton) (paragraph [0017]). Since the copolymers of Kantner are useful for the very same purpose as those of Anton (i.e. producing cosmetics with improved gloss and transfer resistance), the ordinary artisan would recognize the functional equivalency between the monomer sets of Anton and Kantner, and it would have been obvious to try any combination of these monomers. As noted above, even in the most simple diblock configuration (...ABABABAB...), the polymers comprise first and second blocks that are linked together via an intermediate segment comprising constituent monomers for the first and second blocks (for example, the underlined segment in the example above is such an intermediate segment). It is reasonable that a block comprising monomers from each of a rigid ("hard") and flexible ("soft") block will have a T_g between these two extremes, as would be recognized by the ordinary artisan. Furthermore, since Anton teaches block terpolymers and teaches various configurations of the blocks in the polymers (column 3, lines 21-24; table in column 4) including homopolymeric blocks (column 4, lines 28-60), it would have been obvious to an ordinary artisan to produce a

Art Unit: 1611

polymer having homopolymeric blocks of any of the monomers taught by Anton or Kantner in any of the configurations taught by Anton. While Kantner teaches a copolymer with first and second block and optionally third block and not the polymers of the blocks, it is to be noted that Anton teaches block polymers and the teachings of Kantner have been cited only for the functional equivalence of 1) isobornyl methacrylate and isobornyl acrylate and 2) isobutyl acrylate and n-methyl butacrylate. Additionally, Kantner teaches that the polymers of the invention are insoluble in a water system (paragraph [0011]). Therefore, for instant claim 112, it is reasonable that the polymers taught by the combination of Anton and Kantner will not be soluble at an active material amount of at least 1% by weight in water. Anton does not disclose the compatibility of the various polymer blocks, and does not disclose the solubility of the blocks in the major organic liquid medium of the composition, which is how mutual incompatibility is defined in the instant specification (paragraph [0078]). Nonetheless, since the combination of Anton and Kantner teach an identical polymer composition to that instantly claimed, including the same types of monomers, and blocks thereof, it is reasonable that these blocks are mutually incompatible as defined in the instant specification.

Regarding claims 171-177, Anton teaches that the molecular weight average of the polymer is from 5,000 to 300,000, but is preferably from 5,000 to 50,000 (column 5, lines 23-28). Anton exemplifies a composition comprising a polymer having a molecular weight (i.e. a number-average mass) of 27,100 (Example 1). Anton teaches that the first repeat unit has a T_g of about -10-75°C and the second repeat unit has a T_g of about 76-

Art Unit: 1611

120°C (abstract; column 4, line 62 to column 5, line 1). Specifically, Anton embodies a polymer comprising blocks of isobornyl methacrylate ($T_g = 110^\circ\text{C}$) and isobutyl methacrylate ($T_g = 53^\circ\text{C}$) (Example 1) and teaches that a variety of other monomers are useful in the polymers, for instance n-butylmethacrylate ($T_g = 20^\circ\text{C}$, which has a T_g between 20°C and 40° as defined in paragraph [0140] of the instant specification) and hexyl methacrylate ($T_g = -5^\circ\text{C}$) (column 3, line 56 to column 4, line 38; column 5, lines 33-54, see the second table in column 5). Furthermore, Anton teaches that preferable methacrylate esters useful for the first monomer are those obtained by esterification of methacrylic acid with an aliphatic alcohol of 2 to 30 carbon atoms (column 3, lines 57-61). Anton teaches that relative to the polymer, the portions of the first and second repeat units can vary from 2-99% by weight of the first repeat unit to 1-98% by weight of the second repeat unit and vice versa (column 5, lines 3-32). Thus, it would be obvious to an ordinary artisan to use any percentage within this range for each of the blocks. As discussed above, Anton teaches that manipulating the percentages of the blocks alters the properties of the final polymer. Thus, the skilled artisan would be motivated to adjust the amounts of the first and second blocks to optimize the properties of the polymer for a particular formulation. Furthermore, Anton describes polymers comprising at least three different monomers (column 4, lines 28-60) and teaches that the final polymer may contain, in addition to the first and second repeat units, other monomeric units such as ethylenically unsaturated monomer units and silicon repeat units. Thus, it would have been prima facie obvious to an ordinary artisan at the time of the invention to include such an additional monomer (in addition to isobornyl

Art Unit: 1611

methacrylate and, a second monomer having a lower T_g), in the polymer as taught by Anton.

While Anton teaches methacrylic acid and esters thereof, acrylic acid itself is not disclosed. However, Kantner teaches that the copolymer may include other monomers similar to the first and second monomers or can include an optional third monomer that has different properties than the first two. For example, the third monomer can be hydrophilic (paragraphs [0020]-[0023]). Kantner teaches that these additional monomers can improve performance or reduce cost (paragraph [0023]). Moreover, Kantner teaches that blends of two or more copolymers may be used (paragraphs [0024] and [0025]) and that this can provide a composition with improved film forming characteristics. Kantner teaches that acrylic acid is a suitable hydrophilic monomer (paragraph [0022]). Thus, it would have been *prima facie* obvious to an ordinary artisan to produce a polymer having homopolymeric blocks of any of the monomers taught by Anton, as well as the additional monomers taught by Kantner, such as acrylic acid.

With respect to the argument regarding non-elastomeric, both Anton and the newly cited reference Kantner teach block polymers that do not have any elastomeric properties. Thus, a skilled artisan would have been able to prepare non-elastomeric polymers from the combination polymers i.e., homopolymers of Anton and acrylic acid of Kantner.

Anton does not disclose the weight % of the additional monomer relative to the first and/or second blocks. However, Kantner teaches that the additional monomer can constitute up to about 20% weight of the total amount of monomer used (paragraph

Art Unit: 1611

[0021]). Kantner also teaches that this amount can be adjusted (for example, used at higher concentrations) depending on the specific additional monomer employed (paragraph [0022]). Thus, it would have been well within the skill of the ordinary artisan to adjust the amount of the additional monomer based on the teachings of Anton (see upper table in column 5) and Kantner. One would be motivated to adjust the amount of the additional monomer based on the teachings of Kantner, which indicate that other monomers may be incorporated to improve performance or reduce cost, as would be recognized by the skilled artisan. Thus, an ordinary artisan would be motivated to include an additional monomer to for a variety of reasons, for instance to increase the hydrophilicity of the copolymer, or reduce the cost associated with its production as taught by Kantner (paragraph [0023]). Both Anton (column 9, lines 17-27; Example 1, wherein D&C and FD&C lakes are dyestuffs) and Kantner (paragraph [0030]) teach that the cosmetic compositions include other cosmetic ingredients including pigments and dyes. Anton teaches that the cosmetic compositions of the invention are for application to the skin (i.e. keratin material) or lips and may be in the form of creams or a composition that has a consistency such that it can be poured or molded into the form of a stick (column 2, lines 26-41). One of ordinary skill in the art would recognize that such pourable/moldable compositions can be pastes, as is typical of anhydrous lipsticks, for example. Furthermore, Kantner teaches that the compositions are useful for, *inter alia*, mascara, eyeliner, and lipstick (paragraph [0013]). In light of these teachings, it would have been *prima facie* obvious to an ordinary artisan to produce the cosmetic compositions of Anton in the form of creams or pastes. One would be motivated to

Art Unit: 1611

produce a paste form since the preferred embodiment of Anton is a lipstick (i.e. an anhydrous paste).

Neither Anton nor Kantner teach the claimed polydispersity of greater than or equal to 2.5. While the term greater than (independent claims such 108, 109) includes any number including infinity, the dependent claim 170 specifies PDI to be 2.8-6.

Melchior's discloses copolymer compositions with the object of providing coating compositions with high resistance to solvents, water, and environmental influences with very good optical properties (gloss) and mechanical properties (hardness, flexibility), which can be applied in a wide range of fields (paragraphs [0013], and [0037]).

Melchior's teaches that polydispersity values of 2.9-3.5 are acceptable to achieve the objects of the invention Table 1. Further, it would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention to formulate a polymer with a core and flanking blocks having different compositions and T_g values as taught by Frechet, to provide a transfer resistant makeup composition using isobornyl methacrylate as a preferred monomer as taught by Anton and isobutyl acrylate as a preferred monomer as taught by Frechet and to formulate the polymer with a polydispersity of 2.9-3.5 as taught by Melchior's. One would have had a high expectation of success given that each of the references is concerned with similar problems in the art, namely providing compositions with desirable cosmetic properties. The skilled artisan, in possession of Anton, Frechet, and Melchior's could have arrived at the instantly claimed invention by no more than routine experimentation.

Response to Arguments

9. Applicant's arguments and the declaration of Celine Farcet filed 5-28-10 have been fully considered but they are not persuasive.

10. Applicants argue that the instant polymer, specifically the poly(isobornyl acrylate/iso-bornyl methacrylate) and poly(isobutyl acrylate) prepared in isododecane is not homogenous and instead of made of multiple phases, It is argued that if those two are instead coupled via an intermediate block such as recited in the pending claims, a uniform and homogenous composition results. Specifically, Annex II shows a composition comprising a linear block copolymer having a first block poly(isobornyl acrylate/isobornyl methacrylate), a second block poly(isobutyl acrylate) and an intermediate block poly(isobornyl acrylate/isobornyl methacrylate/isobutyl acrylate) (52% by weight) in isododecane. It is argued that none of the cited references teaches or suggests that a random intermediate block can link two otherwise incompatible blocks to render the resulting composition miscible.

11. Applicants' arguments are not persuasive because applicants merely argue that none of the references teach random intermediate block can link two otherwise incompatible blocks to render the resulting composition miscible, without showing how the polymers of Anton, such as those listed in col. 4, l 35-60, particularly IIIIIIIIBBBBBBBBBBBBBBBBBMMMMMMMMMM, where -IIBB- and -BBBB- do not qualify for the instant random block. Further, Anton clearly teaches preparing random block polymers from first and second polymers having different Tg. With respect to the argument regarding, firstly, examiner notes that instant rejection cites the teachings of

Art Unit: 1611

Mechiors for the PDI, which applicants state are acceptable. While instant independent claims recite a PDI greater than 2.5, the PDI of the of the polymer in the declaration is 3.6, which is not commensurate with the entire scope of the claimed PDI. Furthermore, while Melchior has been cited only PDI and not for the specific polymers, applicants have not explained why the polymeric blocks taught by Anton do not result in the claimed PDI, given the fact that Anton teaches that the molecular weight average of the polymer is from 5,000 to 300,000, but is preferably from 5,000 to 50,000 (column 5, lines 23-28). Anton exemplifies a composition comprising a polymer having a molecular weight (i.e. a number-average mass) of 27,100 (Example 1). Thus, it is the position of the examiner that Anton teaches the range of molecular weights of the polymers that are claimed in the instant application and for the same purpose i.e., film-forming. Therefore, a skilled artisan would have been able to prepare polymers of appropriate molecular weight and achieve the claimed PDI. With respect to the argument regarding non-elastomeric, both Anton and the newly cited reference Kantner teach block polymers that do not have any elastomeric properties.

12. Applicants' arguments regarding the teachings of Mougin and Frechet are moot because the references are no longer applied to the instant claims. Instead a new reference of Kantner has been cited.

Conclusion

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

Art Unit: 1611

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lakshmi S. Channavajjala whose telephone number is 571-272-0591. The examiner can normally be reached on 9.00 AM -5.30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sharmila G. Landau can be reached on 571-272-0614. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1611

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Lakshmi S Channavajjala/
Primary Examiner, Art Unit 1611
August 30, 2010